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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,008	12/21/2001	Minoru Toda	MSI-107 CIP (N1024-00253)	8397
7590	03/02/2004		EXAMINER ADDISON, KAREN B	
Edward J. Howard DUANE, MORRIS & HECKSCHER 100 College Road West Princeton, NJ 08540			ART UNIT 2834	PAPER NUMBER

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/026,008

Applicant(s)

TODA ET AL.

Examiner

Karen B Addison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-29 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of claims 1-29 in Paper No. 2 is acknowledged.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-5,7,11,12-14,16,17-19,21,24,and 26-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Zloter (6392330).

Zloter discloses a transducer in fig.4c-6 comprising: a Polyvinylidene Fluoride piezoelectric film (22) having a first and second surface opposite the first surface; at least one first electrode disposed on a first portion of the first surface of the film, at least

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one first electrode (36) defining an electrode area for generating a signal in response to acoustic energy incident on the piezoelectric film; and at least one reinforcing area(30) made of metal disposed on a second portion of the first surface of the film different from the first portion. Zloter also discloses at least one-third electrode (32) disposed on a first portion of the second surface of the film so as to cover substantially the entire portion of the second surface wherein; the second surface is the outer surface of the film. Zloter discloses a frame member(38) that is substantially cylindrical wherein; the piezoelectric film surrounding the frame member is cylindrically shaped and having a radius larger than the radius(4c) of the frame so as to define a gap between the film and frame member(38). Zloter also disclose at least one reinforcing (30) area comprising at least two reinforcing areas disposed on the opposite side of the electrode of at least the first electrode (col.8 line 5-11).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6,8,10,15, 20, 25,28,29 are rejected under 35 U.S.C.103 (a) as being unpatentable over Itoh (4825116).

As seen above in paragph 2, Zloter discloses substantially the claim invention.

However, Zloter do not discloses a housing covering a portion of the piezoelectric film,

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the thickness of the metal material ranging from 20-60, and a reinforcing layer made of a polymer material having a thickness of 25-100um.

Itoh discloses a transmitter-receiver in fig.14 and 15 comprising: a piezoelectric film (1) having a housing (131) covering at least a portion of the piezoelectric film and forming a material resistant to the propagation of acoustic energy wherein; the housing has an aperture (see fig.14) of given dimensions for exposing a portion of at least one first electrode for controlling the beam angle associated with the received acoustic energy.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the transducer of Zloter with the housing of Itoh for the purpose of high damping characteristics and high efficiency.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to select a reinforcing layer of polymer, since it has been held within the general skill of a worker in the art to select a known material as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

It also would have been obvious to select the thickness of the metal and polymer material to have a thickness of 20-60um and 25-100um for the purpose of varying the directivity of the angle produced by the transducer. Since it has been held that where the general conditions of a claim are in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Referring to claims 28-29, no patentable weight has been given to the method of manufacturing limitations (i. e. sputtering) since "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the

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product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen B Addison whose telephone number is 571-272-2017. The examiner can normally be reached on 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1317. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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KBA  
2/12/04

  
**BURTON S. MULLINS**  
**PRIMARY EXAMINER**